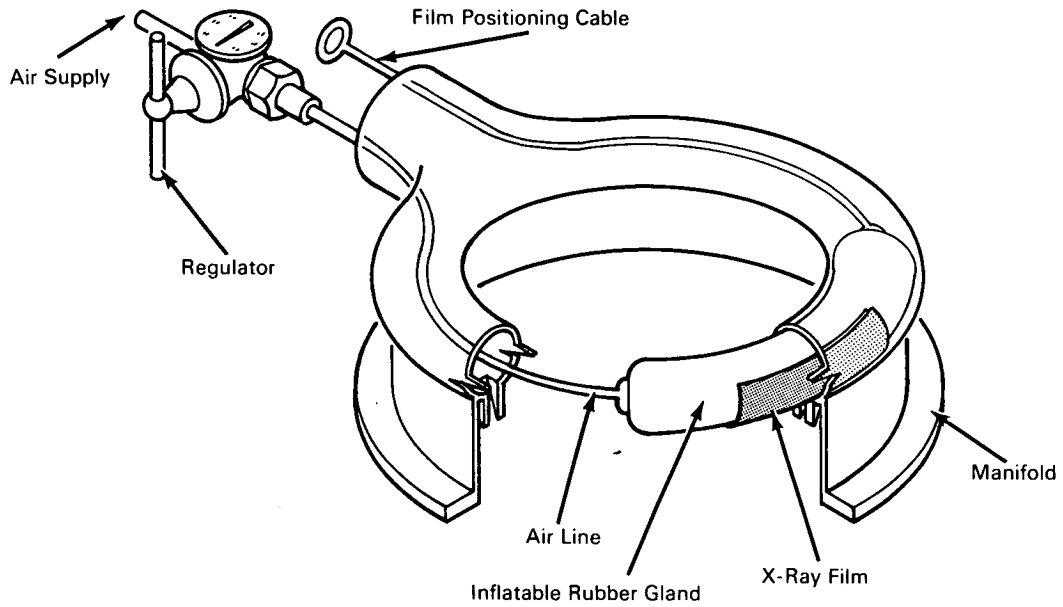
July 1966 Brief 66-10327

NASA TECH BRIEF

Inflatable Holding Fixture Permits X-Rays To Be Taken of Inner Weld Areas



The problem:

To position and hold X-ray film in positive contact with inner weld areas of manifold torus assemblies for verifying the quality of the welds. Prior methods were not satisfactory because of the difficulty in achieving positive film contact.

The solution:

Development of an inflatable rubber gland (resembling a section of an automobile tire inner tube) that conforms to the inside diameter of the manifold torus assembly.

How it's done:

The X-ray film is secured to the inflatable gland with tape. They are then inserted into the inlet of the torus and positioned by a cable attached to the gland. The opposite end of the gland has an air hose connection to accommodate a regulator and air line. The gland is inflated, pressing the film snugly against the inside weld area of the manifold torus.

Following film exposure, the gland is deflated and removed. The exposed film is replaced with new film and the procedure is repeated until all weld areas have been X-rayed.

(continued overleaf)

Notes:

1. This application can be used to X-ray most inner weld areas having an access through which an inflatable gland can be inserted.
2. Inquiries concerning this innovation may be directed to:

   Technology Utilization Officer
   Marshall Space Flight Center
   Huntsville, Alabama 35812
   Reference: B66-10327

Patent status:

No patent action is contemplated by NASA.

Source: T. M. Spence and D. R. Hendrickson
of North American Aviation, Inc.
under contract to
Marshall Space Flight Center
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